REMARKS

Claims 5 and 12 stand rejected as being unpatentable over FIGS. 1 through 3 of the present invention in view of newly cited cited Edlund (U.S. Pat. No. 2,723,828) or newly cited Bedo (U.S. Pat. No. 3,857,410). Reconsideration of the rejections is hereby solicited in view of the foregoing amendments and the following remarks.

Claims 5 and 12 were amended to emphasize aspects, such as first and second spherical segments, that patentably distinguish from the prior art of record, including EP 0670445 (having as counterpart U.S. Pat. No. 5,556,175). As requested by the Examiner, a copy of a foreign search report is attached herewith.

Regarding any rejection under 35 U.S.C. § 103, it is respectfully noted that the test for patentability is whether there is some teaching or suggestion in the prior art references to support their use to reject the claimed invention. It is a basic tenet of patent law that the PTO is not permitted to ignore the results and advantages produced by claimed subject matter, of which the prior art is devoid, simply because the recited structure may be similar to that otherwise barren prior art. Further, when evaluating a claim for determining obviousness, all structural and operational interrelationships of the claim must be evaluated.

Consistent with the foregoing tenets of patent law, it is respectfully submitted that neither of claims 5 or 12 is rendered unpatentable in view of the prior art of record. More specifically, Edlund discloses a ball valve 2 with a circumferential groove 3. The object of such a groove is to allow the ball to rotate freely. In fact, Edlund appears to use a cap 1 and a spike 7 to secure the ball. See Col.2, line 26 et. seq. Thus, the structural and/or operational relationships set forth in amended claim 5 are not taught or suggested by the combination of FIGS. 1 through 3 of the present invention in view Edlund.

Regarding the Bedo reference, the valve plug 96 disclosed by Bedo, which plug arguably is the element that would appear to be functionally equivalent to the ball valve recited by applicant since it provides a sealing

function, is very different from the structural and/or operational relationships for the ball valve recited in claim 5. Bedo does disclose a mounting portion 92 disposed on the other end of an actuating stem 170. However, the functionality and structural features of that mounting portion 92 are very different from the structural and/or operational relationships set forth in claim 5 for the ball. For example, Bedo requires a retaining ring 182 to lock mounting portion 92 to eliminate axial movement while permitting relative rotation between the two stems. See Col. 5, line 6 et. seq. Applicant's ball does not require any additional structure to lock the ball. Elimination of even a single component, particularly in the automotive industry that involves mass production of thousands if not millions of components, should provide a commercial advantage to the assignee of the present invention. In view of the foregoing remarks, it is respectfully submitted that the structural and/or operational relationships set forth in amended claim 5 are not taught or suggested by the combination of FIGS. 1 through 3 of the present invention in view Bedo.

Claim 12 is directed to a method for arranging a valve for a brake control actuator. Applicant respectfully submits that the applied prior art, as discussed above, singly or in combination, also fails to disclose or suggest the relationships respectively set forth in claim 12.

It is respectfully submitted that each of the claims pending in this application recites patentable subject matter and it is further submitted that such claims comply with all statutory requirements and thus it is earnestly solicited that each of such claims be promptly allowed.

The applicant appreciates the Examiner's efforts for conducting a thorough examination, and cordially invites the Examiner to call the undersigned

attorney if there are any outstanding items that may be resolved via telephone conference.

Respectfully submitted,

Jimmy L. Funke, Esquire
Registration No. 34,166
Delphi Automotive Systems
P.O. Box 5052
M/C 480-410-202
Troy, Michigan 48007
Telephone: (248) 813-1214
Facsimile: (248) 813-1211

Certificate of Mailing

I hereby certify that a true and correct copy of the above Amendment was furnished by First Class Mail to: Commissioner for Patents, MAIL STOP NON-FEE AMENDMENT, P.O. Box 1450, Alexandria, VA 22313-1450 on this 5 day of January, 2004.

Brenda D. Chambers

P.B.5818 - Patentlaan 2
2280 HV Rijswijk (ZH)
☎ +31 70 340 2040
TX 31651 epo nl
FAX +31 70 340 3016

Europäisches Pat ntamt
Zweigstelle in Den Haag Recherchen-abteilung

European Patent Offic
Branch at The Hague Search division

Office ur péen des brevets
Département à La Haye Division de la recherche

Denton, Michael John
Delphi European Headquarters
64 avenue de la Plaine de France
Paris Nord II
BP 60059 Tremblay-en-France
95972 Roissy Charles de Gaulle Cédex
FRANCE

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DP -306444	02078767.7-2423-

Anmelder/Applicant/Demandeur/Patentinhaber/Proprietor/Titulaire
Delphi Technologies, Inc.

COMMUNICATION

The European Patent Office herewith transmits as an enclosure the European search report for the above-mentioned European patent application.

If applicable, copies of the documents cited in the European search report are attached.

☒ Additional set(s) of copies of the documents cited in the European search report is (are) enclosed as well.

The following specifications given by the applicant have been approved by the Search Division:

☐ abstract ☒ title

☒ The abstract was modified by the Search Division and the definitive text is attached to this communication.

The following figure will be published together with the abstract: 4

REFUND OF THE SEARCH FEE

If applicable under Article 10 Rules relating to fees, a separate communication from the Receiving Section on the refund of the search fee will be sent later.

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 02 07 8767

This annex lists the patent family members relating to the patent documents cited in the above-mentioned European search report. The members are as contained in the European Patent Office EDP file on
The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

26-08-2003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
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		JP 6193764 A	15-07-1994
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ABSTRACT / ZUSAMMENFASSUNG / ABREGE

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Valve (100) and method (200) for a brake control actuator are provided. The valve includes a rod (102) operable between respective operating conditions to selectively allow passage of brake fluid through the valve. The valve further includes a ball (104) affixed at one end of the rod. The ball includes a sealing section (106) that, upon engagement against a ball-receiving seat (108) in the valve, blocks passage to brake fluid therethrough. The ball further includes a mounting section (110) integral with the sealing section. The mounting section is configured to provide a reduced footprint relative to a spheroidal footprint and enable a strong mechanical joint between the mounting section (110) and the rod (102).

European Patent Office

EUROPEAN SEARCH REPORT

Application Number
EP 02 07 8767

DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int.Cl.7)
X	EP 0 670 445 A (NIPPON DENSO CO) 6 September 1995 (1995-09-06) * column 7, line 57 - column 8, line 9; figure 11 *	1,2,8,9	B60T8/36 F16K31/06
A	WO 99 41121 A (CONTINENTAL TEVES AG & CO OHG ;LAUER JOSEF (DE); GARCIA QUILON JOS) 19 August 1999 (1999-08-19) * page 4, last paragraph - page 6, last paragraph; figure 2 *	1,2,8,9	
A	GB 933 758 A (ELEMAG ANSTALT) 14 August 1963 (1963-08-14) * page 1, line 49 - line 55; figure *	1,2,8,9	
A	US 4 662 567 A (KNAPP HEINRICH) 5 May 1987 (1987-05-05) * column 3, line 22 - line 28; figure *	1,3,8,10	
A	DE 40 37 172 A (AWECO KUNSTSTOFFTECH GERAETE) 11 July 1991 (1991-07-11) * column 2, line 54 - line 56; figure 1 *	1,3,8,10	TECHNICAL FIELDS SEARCHED (Int.Cl.7) B60T F16K
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A	US 5 344 118 A (KAMIYA HARUO ET AL) 6 September 1994 (1994-09-06) * abstract; figure 2 *	1,8	

The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
MUNICH	26 August 2003	Meijs, P

CATEGORY OF CITED DOCUMENTS

X : particularly relevant if taken alone
Y : particularly relevant if combined with another document of the same category
A : technological background
O : non-written disclosure
P : intermediate document

T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
D : document cited in the application
L : document cited for other reasons

& : member of the same patent family, corresponding document

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